

simuwatt



NREL

Lars Lisell

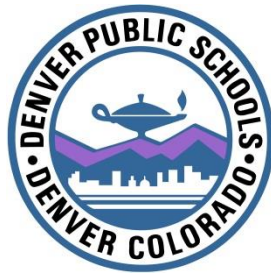
April 2, 2014

Benefits of using simuwatt

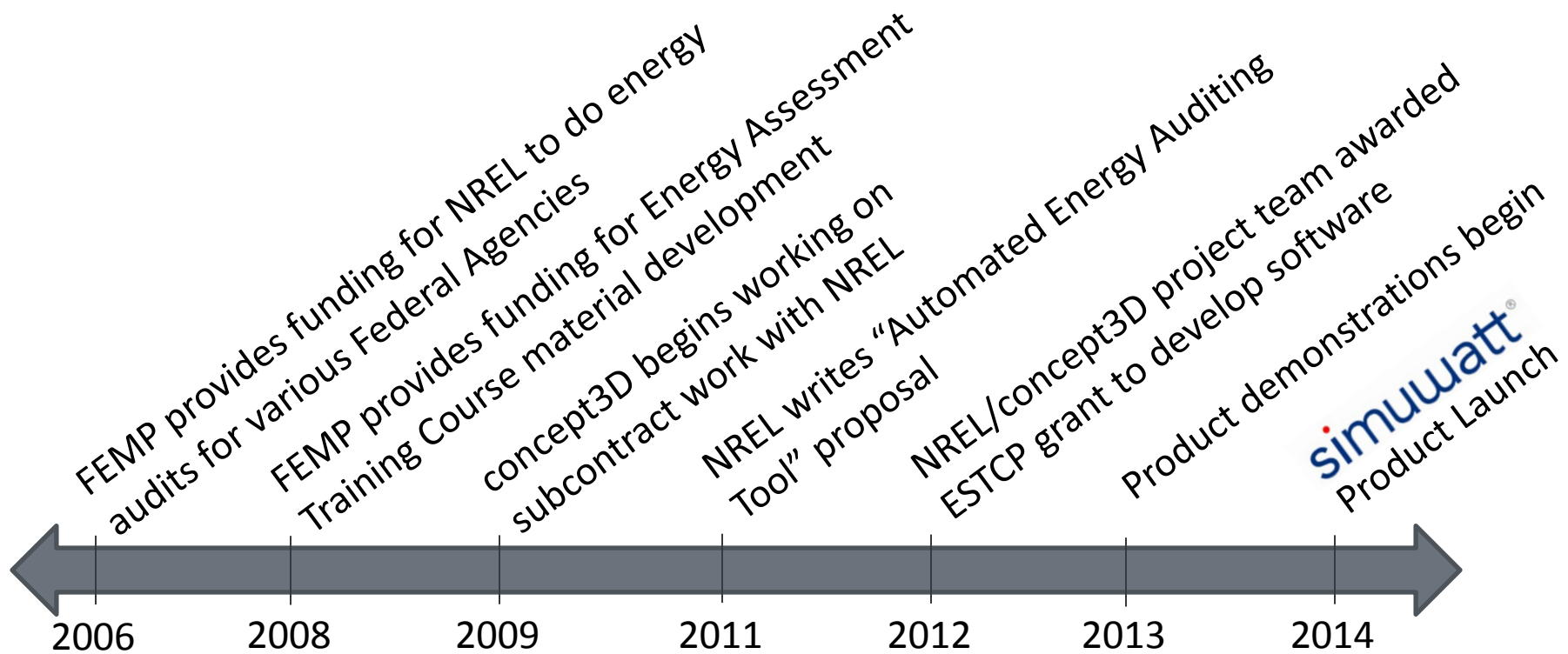
- Streamlined high quality commercial energy audits
- Consistent, standardized and reusable data format
- Extensive library of building components (currently ~35,000 components available)
- Lower the cost of energy audits by 35%-75%
- Addresses EISA 2007 audit requirements
- Access data from the cloud/integrate with other apps

Who has used it?

Currently over 250 companies on the Beta Testers waiting list

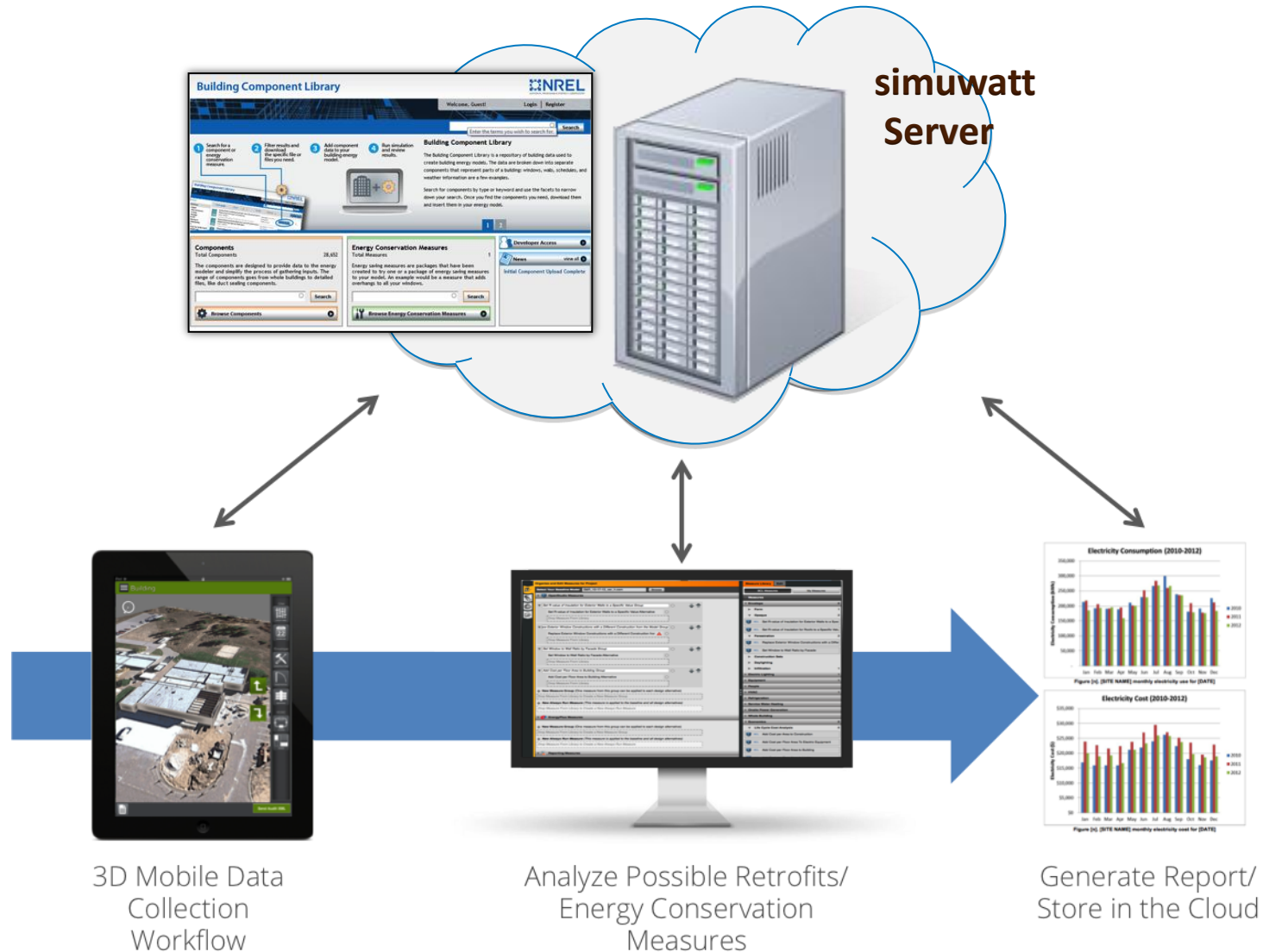


History of the software



- Over 1000 people have attended the Energy Assessment Training Course since 2008
- Research institution/private sector partnership designed to capture efficiencies in the auditing process and create a self sustaining product

simuwatt Workflow



Mobile Data Collection



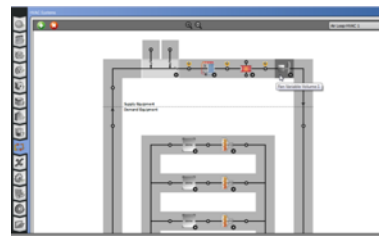
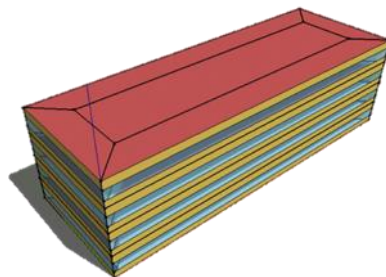
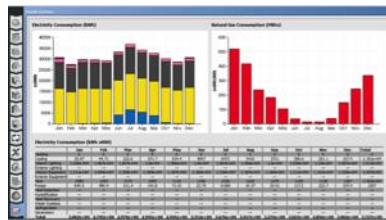
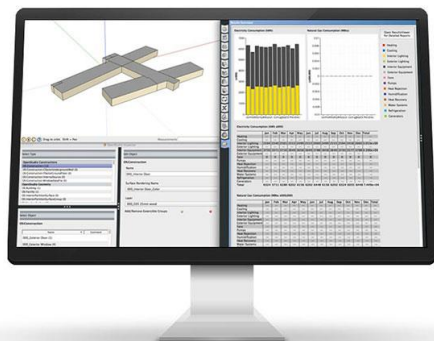
- Standard forms
- Consistent data collection fields
- All data maps to energy model
- In process data validation
- No partial datasets
- 3D visualizations
- Intuitive navigation through forms

Energy Modeling Platform



Energy Modeling

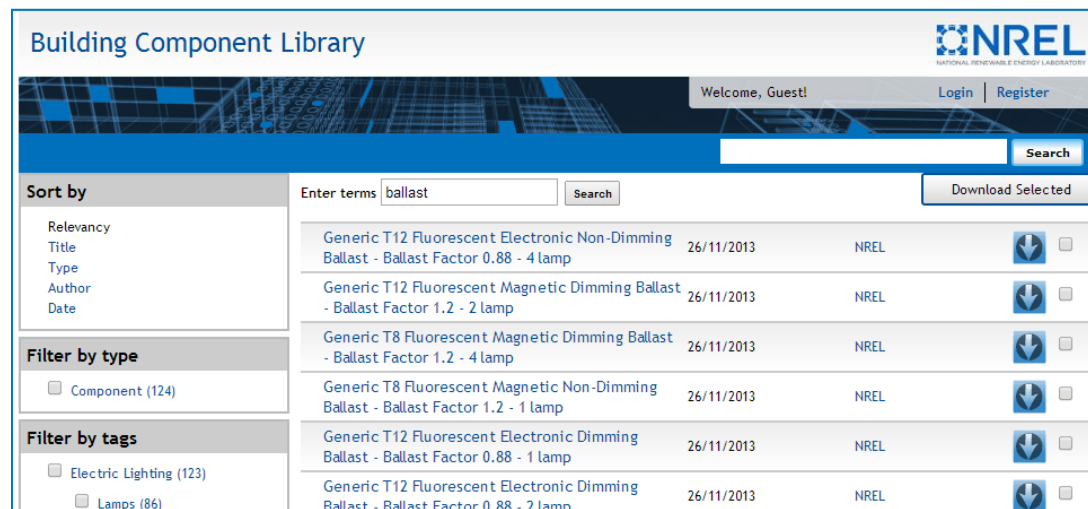
- All data from mobile collection is mapped to create energy model
- DOE funded OpenStudio modeling platform
- Open source energy modeling platform with E+ backend
- Transparent calculation algorithms
- Calibration/Analysis can begin immediately following data collection activities



Building Component Library (BCL)



- Web repository of components with specifications that populate energy model inputs
- Can be accessed via an API
- Quick search and return times
- Currently accessible at bcl.nrel.gov



simuwatt Server



- Data warehousing
- Cloud computing/processing
- Access data from multiple tablets
- Share data with other users
- Reuse data for future audits
- Contribute data from multiple sources

Output Reports



- Data from the server can be queried to produce audit report
- Expandable to produce custom reports
- Export OpenStudio models
- Utility data summaries
- Leverage data for other efforts

Demonstration Results

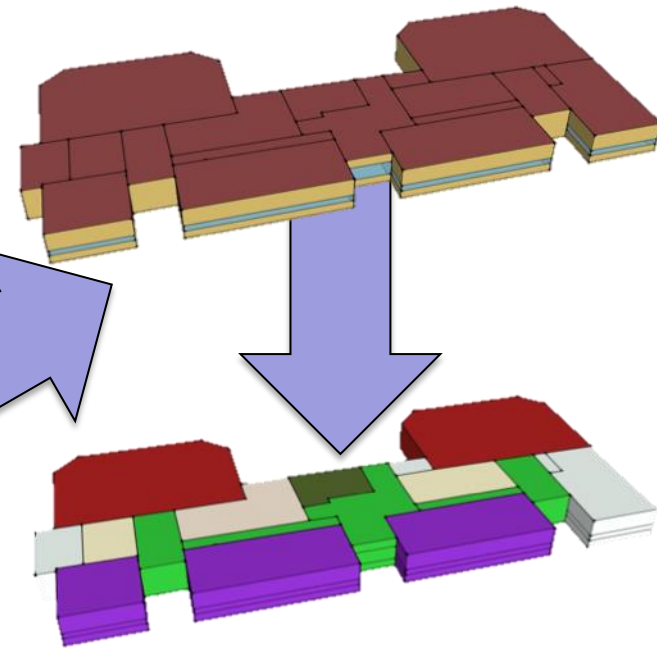
- Ft Jackson, SC



Floorplan



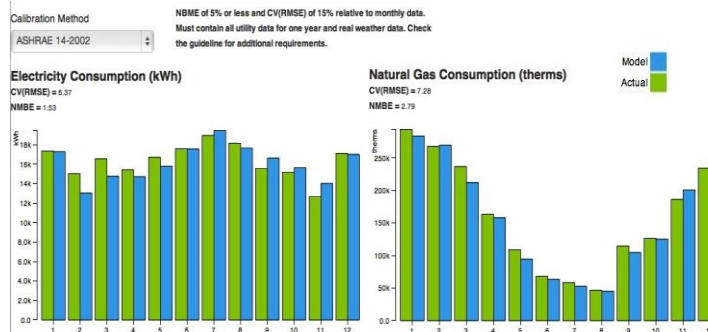
simuwatt screenshot



Automatically generated OpenStudio model - rendering of building 10400

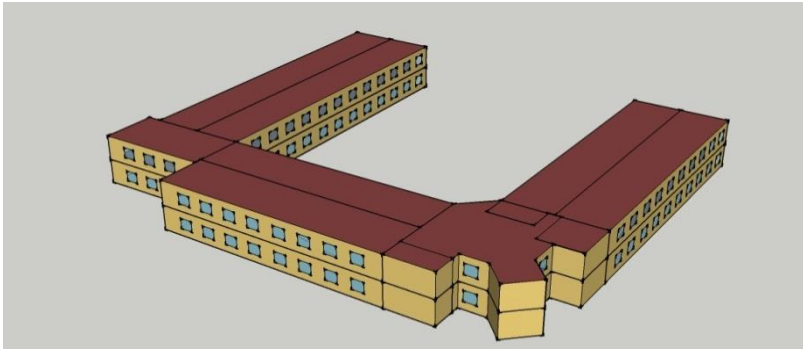


Ft. Jackson Bldg 10400

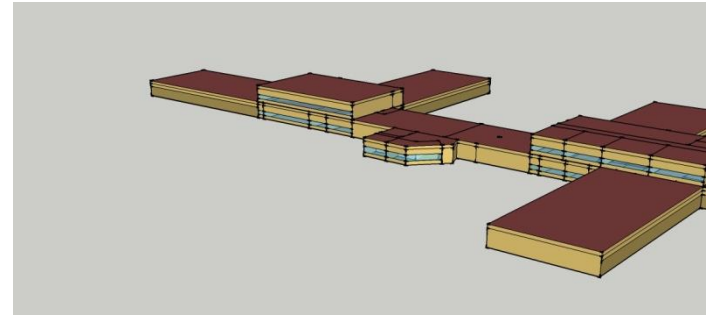


Calibration Report

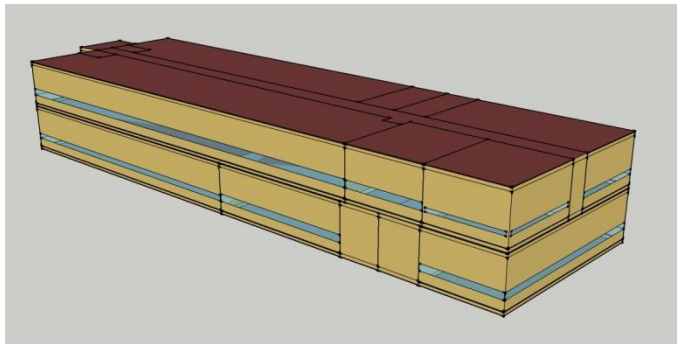
Key Models to date



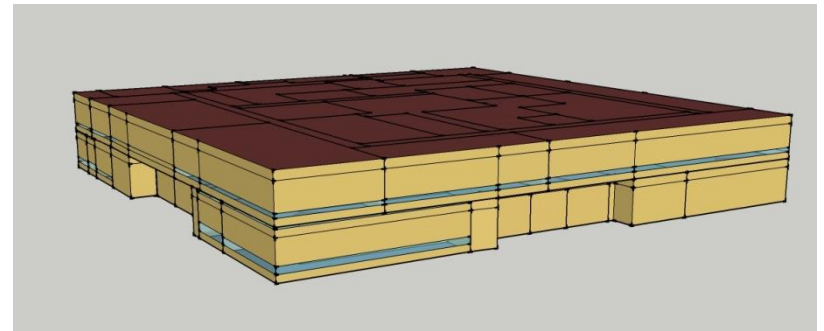
Fort Bliss, TX



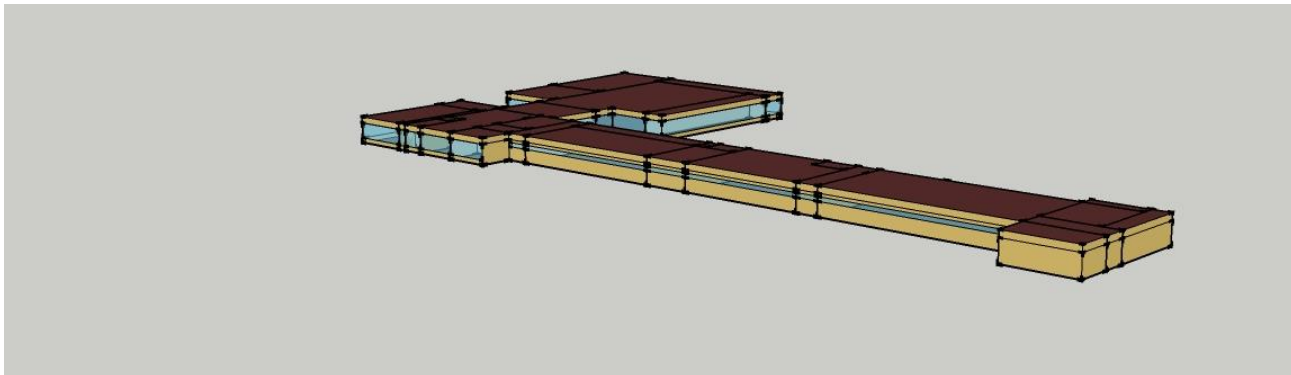
Fort Jackson, SC



Naval Support Activity Monterey, CA



Tyndall Air Force Base, FL



Air Force Academy,
CO



EISA 432 Tracking
U.S. DEPARTMENT OF
ENERGY



Utility



Portfolio
Level Tracking



Other Custom
Reports



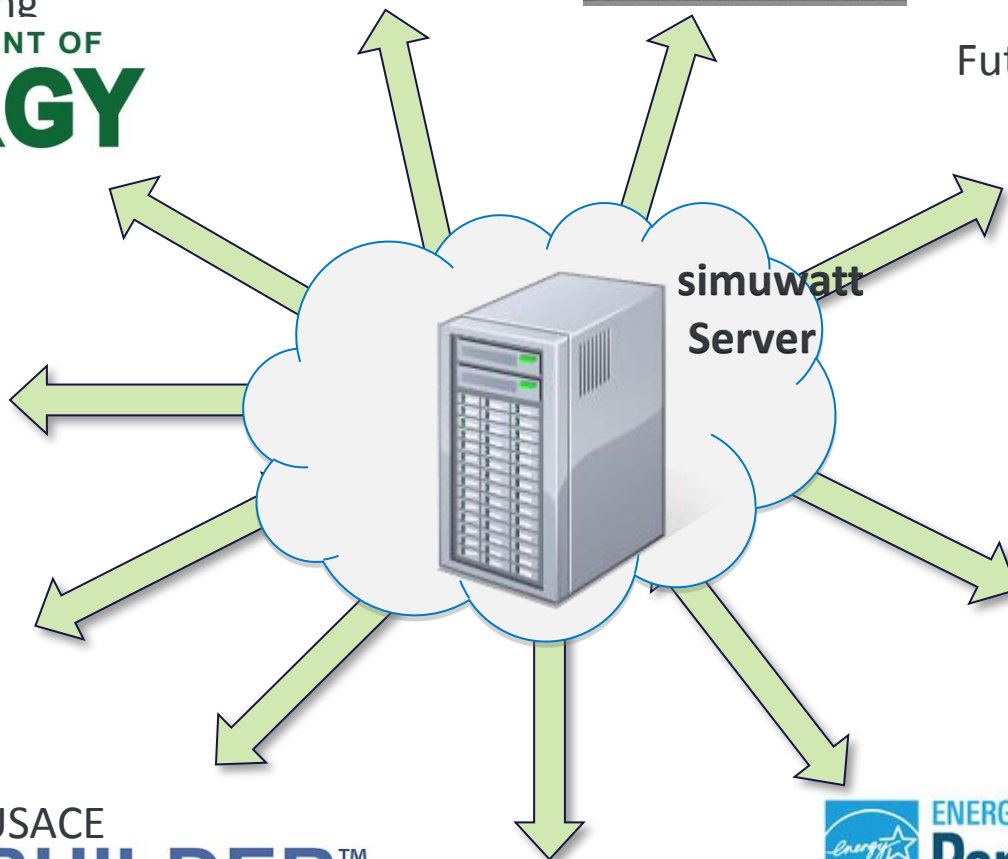
Future Energy Auditors



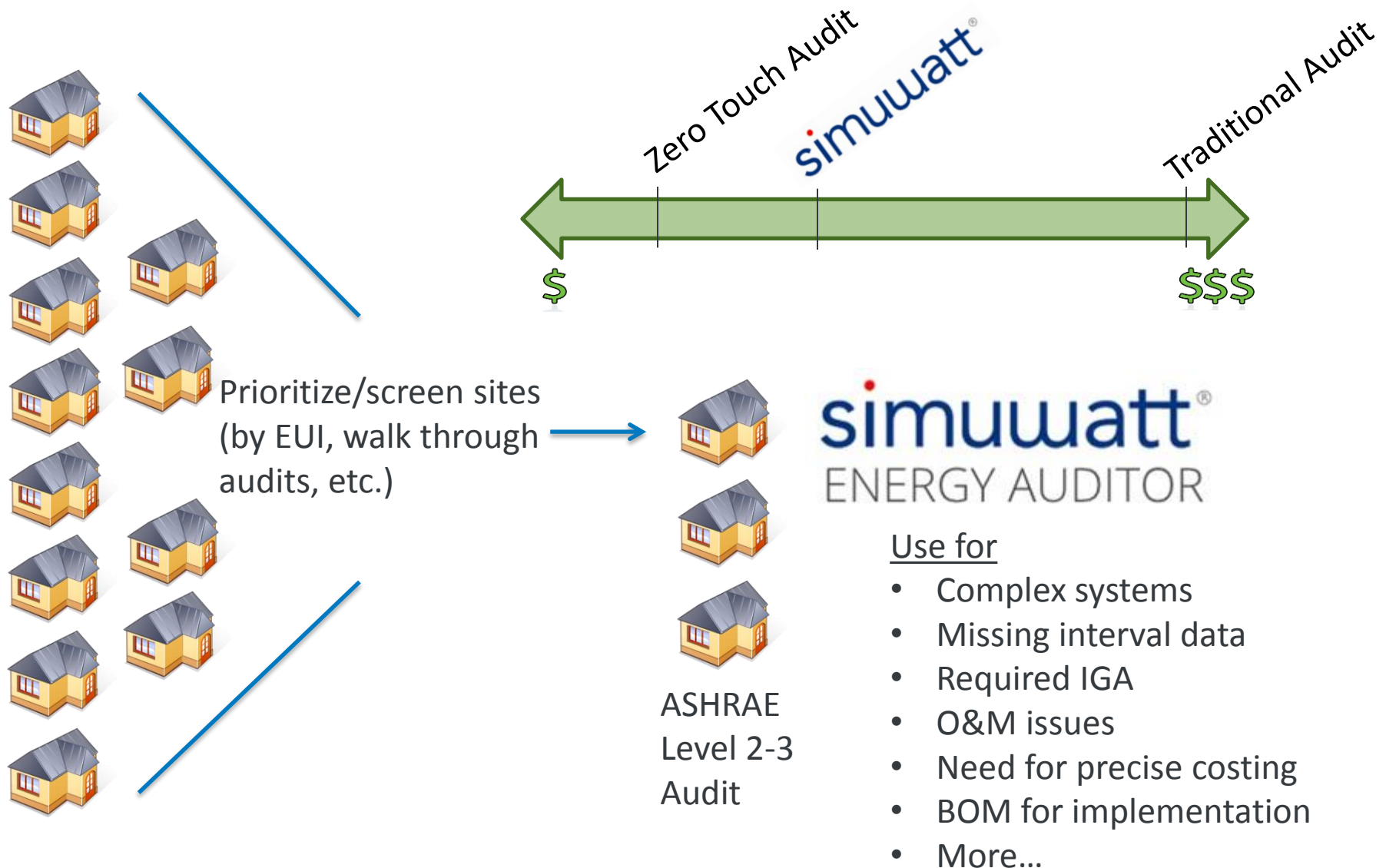
Energy Managers



ESCOs



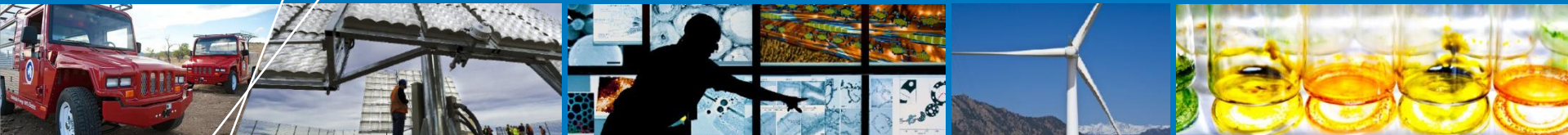
Portfolio Level Strategy



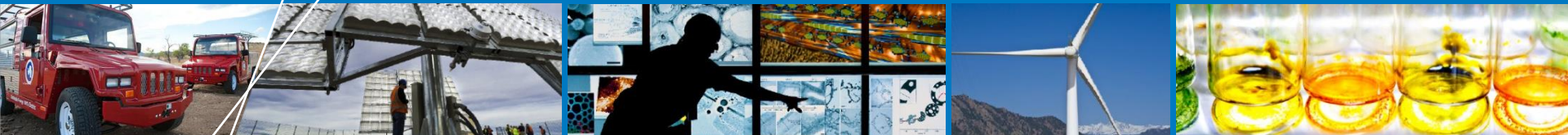
Product Launch

- www.simuwatt.com
- To see a video of the tool in use
<http://simuwatt.com/rd100.html>
- Pricing inquiries can be made at the website

Thank you



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Backup Slides

Building Component Library

Components

- TMY & DD
- Lighting
- Plug Loads
- Construction
- Windows
- Water Fixture
- HVAC
- Occupant Type



Add via
App

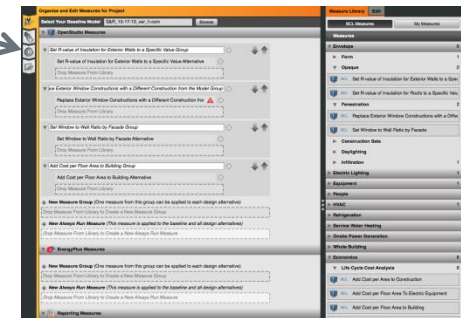


Measures

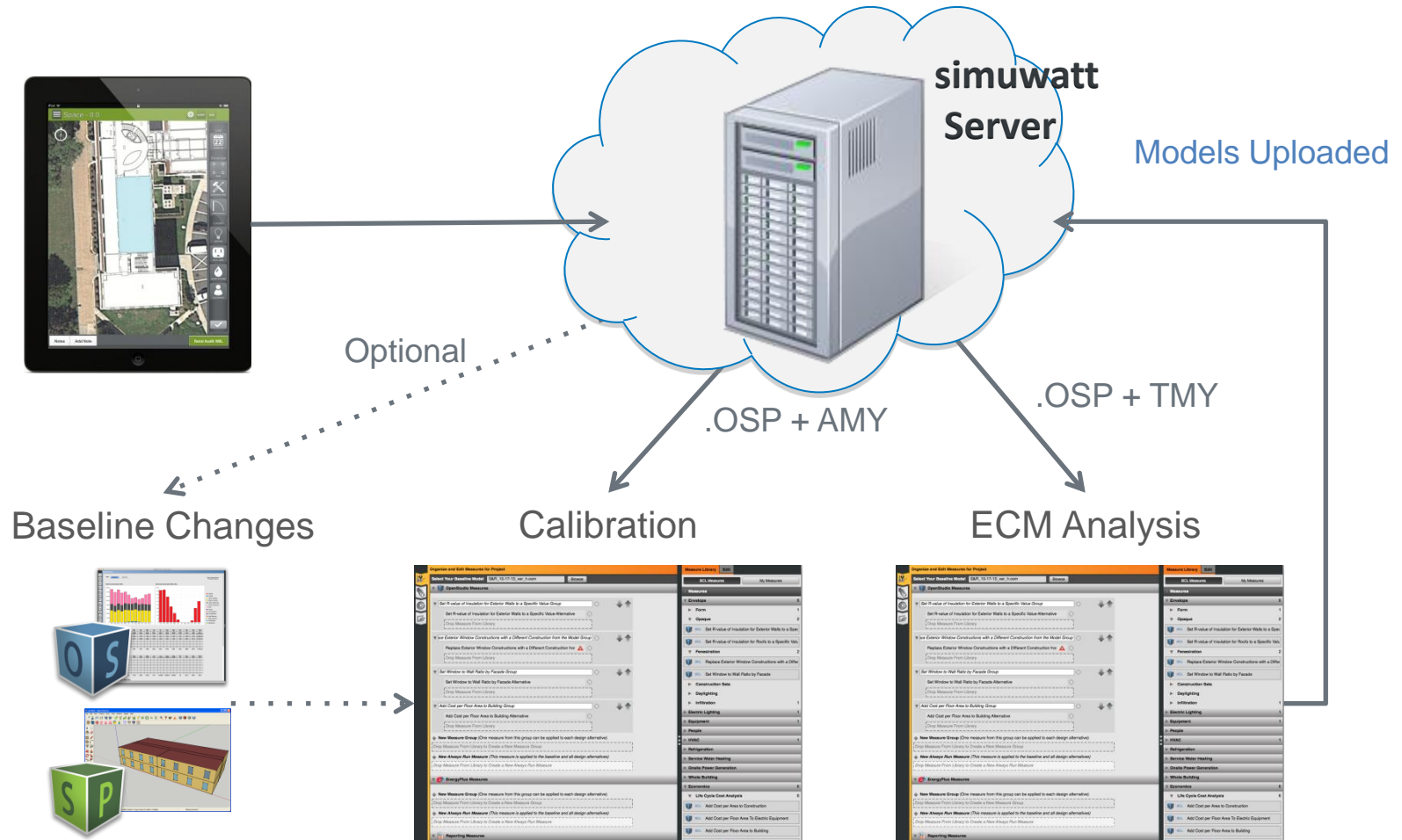
- Calibration
- ECM
- HVAC Replace
- Incentives
- Utility Rates
- Reporting



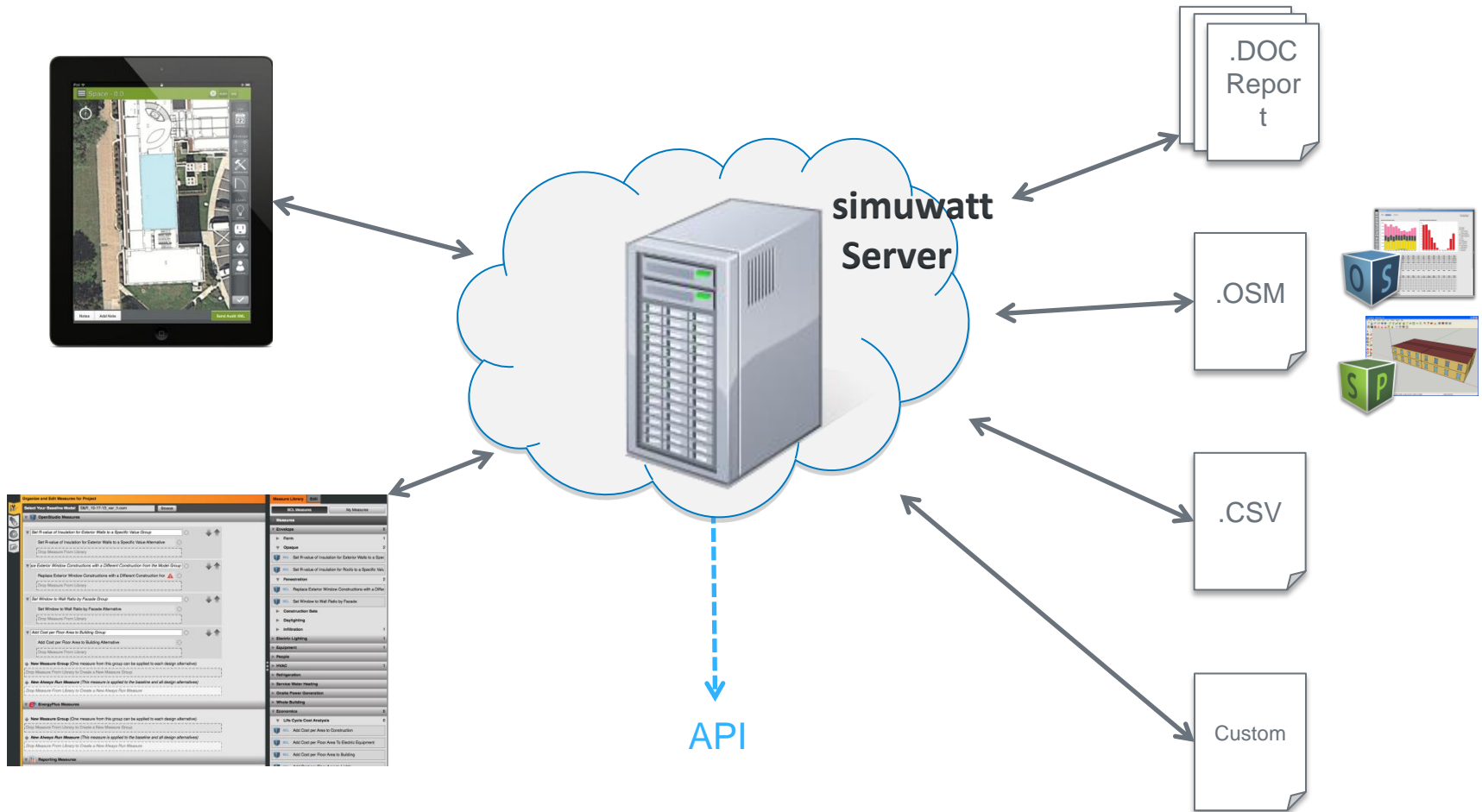
Add via
Website



Analysis



Data Access and Reporting



Multi-User Auditing Tracks

